

6.0 Conclusion

This report seeks to address the need for a centralized information source on Puget Sound marine protected areas. More specifically, this report attempts to:

- Overview MPA basic concepts, including definitions, management models and benefits.
- Identify, classify and profile existing MPAs in Puget Sound.
- Identify and review existing institutions and designation mechanisms responsible for the establishment and management of the current system of MPAs.
- Summarize and evaluate the overall system of MPA sites and institutional arrangements.

These purposes are recapped here, and key points and significant findings are noted. Additionally, suggestions for further research and related work are offered as relates to building an improved and more comprehensive database of information on Puget Sound MPAs. Finally, thoughts are offered concerning the application of this report's information.

Overview of Basic MPA Concepts

Because MPAs are a relatively recent management consideration in Washington State, and regional experience with MPA establishment and management is limited, background information is provided on definitions, concepts, management models, objectives, benefits and challenges associated with MPAs.

The establishment of marine protected areas, while still a relatively new strategy for marine conservation and management, is an approach that has gained considerable attention in recent years. Around the world, designation of and interest in MPAs has rapidly increased over the past few decades. Recent counts have identified over 1,300 MPAs of various types world-wide (Kelleher et al. 1995). In 1970, just 118 were identified (Kelleher and Kenchington 1992).

A marine protected area, as defined by the IUCN, refers to “any area of intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment” (IUCN 1988). MPAs are areas specially managed to protect species, habitats and ecosystems; they are marine areas set aside from otherwise unrestricted human activities. MPAs have been described by a wide variety of protected area titles, including marine reserves, preserves, parks, sanctuaries, refuges, wilderness areas, protected areas and many other terms.

MPAs may range along scales of size and protection level from small “no-take” reserves prohibiting all consumptive human uses, or no-intrusion areas where no human encroachment is allowed, to large multiple-use areas balancing a whole range of conservation, economic and social objectives, and innumerable possibilities in-between. Though often controversial, MPAs are credited with a long list of potential benefits. MPAs can help to: protect biodiversity and ecosystem structure, function and integrity; improve fishery yields and management; expand knowledge and understanding of marine ecosystems; provide recreation and tourism opportunities; and provide socio-economic benefits for coastal communities.

However, MPAs are but one component in a broader scheme of marine conservation strategies. Because MPAs are likely to cover only a small percentage of coastline and marine area, they are not able to address many marine resource impacts, problems and management needs extending beyond or originating outside of their bounds.

Identification, Classification and Profile of Puget Sound MPAs

The identification of and collection of information about protected areas in Puget Sound was carried out using three primary approaches: surveys, interviews and literature review. The use of survey questionnaires to find and profile MPAs was not systematic or comprehensive, but did provide important site details on some MPAs. A wide variety of contacts were interviewed, including on-site managers or staff, government agency staff involved with protected area programs, state and local government planners, researchers, volunteers, and many others that could be contacted and that had specific knowledge about the MPAs discussed in this study. A patchwork of mostly site- and program-specific literature was reviewed to assist in identifying MPAs, finding site details, and understanding institutional arrangements.

To assist in organization and discussion of the various protected areas in Puget Sound, a categorization scheme was developed to distinguish MPAs by primary site objectives or purpose. The MPA categories are: 1) Research and Educational Marine Preserves; 2) Recreational Marine Preserves; 3) Marine Species Preserves; 4) Marine Habitat/Species Preserves; and 5) Multiple Use Protected Areas. Additional categories were created for proposed sites and potential MPAs (sites where MPA determination is questionable).

This study identifies and categorizes 102 existing marine protected areas in Puget Sound. Also identified are many additional proposed and potential MPAs. The MPAs identified are primarily those of state and federal designation. To keep the study at a manageable size, local government and private sector designations were not fully investigated.

Site profiles are created for 42 of the 102 MPAs identified. For each of the profiled MPAs, basic information is provided on the site's designation, boundaries, special features, legal protection, management planning, supervision, and programs related research, monitoring, and education. Detailed ecological assessments or information related to site effectiveness were not pursued. Sites not profiled include 60 developed state park areas containing intertidal or subtidal components. These sites were excluded because they have already been similarly profiled by the Washington State Parks and Recreation Commission (WSP&RC 1996a).

Institutional Review

The review of institutional arrangements provided in this report focuses primarily on policies, goals, objectives, programs and laws of five state government institutions and two federal agencies. These institutions are involved in the establishment and management of protected areas within Puget Sound, and consist of the Washington State Department of Natural Resources (DNR); the Washington State Department of Fish and Wildlife (WDFW); the Washington State Parks and Recreation Commission (WSP&RC); the Washington State Department of Ecology (Ecology); the University of Washington's Friday Harbor Laboratories, the U.S. Fish and Wildlife Service (USFWS); and the National Oceanic and Atmospheric Administration (NOAA). Additional discussions are provided concerning the MPA involvement and efforts of Treaty Tribes, local governments, and various private sector organizations.

The Washington Department of Natural Resources (DNR) acts as manager and trustee for over 5 million acres of state-owned public lands, two million of which are aquatic lands. The agency's numerous stewardship responsibilities keep DNR closely involved in the designation of many existing and potential MPAs. These responsibilities include management of public aquatic lands, aquatic land use and lease management authority, jurisdiction over aquatic plants and affixed aquatic animals on state lands, and administration of both the Natural Area Preserve (NAP) and Natural Resources Conservation Area (NRCA) programs.

DNR may withhold from leasing aquatic lands which it finds to have significant natural values. DNR may also provide within any lease for the protection of such values. Of particular significance to many of the existing MPAs in Puget Sound, DNR has withdrawn from commercial leasable status or conflicting uses certain public tideland and bedland areas within or adjacent to designated protected areas. In some cases, DNR has assigned management responsibility for such “reserved” aquatic lands to other government agencies or institutions (e.g., the U.S. Fish and Wildlife Service at the Protection Island National Wildlife Refuge).

NAPs protect high quality native ecosystems and rare plant and animal species representing the state’s natural heritage. NAPs usually prohibit public access, except for approved scientific and education purposes. Natural Resources Conservation Areas protect outstanding scenic and ecological values, and provide opportunities for outdoor environmental education and appropriate low-impact use. Within Puget Sound, a total of five intertidal DNR-established MPAs are identified in this study: three NAPs (Dabob Bay, Skookum Inlet, and Kennedy Creek) and two NRCAs (Cypress Island and Woodard Bay). Additional NAPs and NRCAs front Puget Sound shorelines but do not include intertidal area.

The Washington Department of Fish and Wildlife (WDFW) has stewardship responsibility for and management authority over all fish and wildlife species. WDFW has adopted harvest closure regulations at eight marine preserve areas in Puget Sound for purposes such as supporting scientific research or recreational scuba diving. WDFW also has established two harvest refugia areas in the San Juan Islands that are closed to commercial harvest of sea urchins and sea cucumbers. A record number (23) of no-take MPAs were proposed to WDFW in 1997, and after having narrowed the candidate sites to five (two new sites and three regulatory overlays at city park areas), adoption of some of these new areas may come in early 1998. Outside of fisheries management, WDFW also manages a variety of intertidal holdings at protected areas such as the Skagit and South Puget Sound Wildlife Areas, the Zella M. Schultz/Protection Island Seabird Sanctuary, and the Lummi Island Natural Area Preserve. Additionally, the recent addition of select food fish, shellfish and marine habitats to WDFW’s Priority Habitats and Species (PHS) list offers possibilities for influencing future decisions regarding MPA establishment and management.

At more than 105 state parks across the state, as well as other land holdings, totaling over 232,000 acres, the Washington State Parks and Recreation Commission (WSP&RC) is responsible for the care, charge, control, and supervision of these areas, and is empowered to adopt and enforce rules necessary to carry out these responsibilities (RCW 43.51.040). There are approximately 97 state park areas (60 designated and developed state parks plus an estimated 37 undeveloped properties — see Appendix C5) located along some 93 miles of Puget Sound shores (WSP&RC 1996a). Most of these areas contain intertidal area, and in some cases a small amount of subtidal area, under the administrative responsibility of WSP&RC. On the basis of WSP&RC’s system-wide prohibition on collection of unclassified marine invertebrates and prohibitions on algae harvest, this study identifies the 60 designated state park areas as MPAs, and categorized these sites as Multiple Use Protected Areas. Beyond this, consideration of WSP&RC’s potential involvement in MPA establishment and management is noted, specifically with respect to the agency’s authority to prohibit fishing at state park areas, recent developments in comprehensive park management planning, and their administrative responsibility for a reforming underwater parks program.

The Washington Department of Ecology (Ecology) is noted for its role in coordinating with federal programs associated with MPAs. This is represented in Ecology’s site management of the Padilla Bay National Estuarine Research Reserve, and the agency’s past involvement with NOAA on the study of the proposed Northwest Straits National Marine Sanctuary. The Shoreline Management Act, administered by Ecology and local governments, is characterized as offering some potential for influencing, but not directly designating, marine protected areas.

The University of Washington's Friday Harbor Laboratories (FHL) have helped to establish several MPAs in Puget Sound. FHL administers the oldest subtidal MPA in the state (a 1923-established Marine Biological Preserve), and has led efforts to justify designation of harvest closures at five small marine preserve sites in the San Juan Islands created primarily to support scientific research by FHL. Beyond the scope of this study, there are also many other marine laboratories and educational institutions conducting research in Puget Sound, some of which are involved in marine area protection.

Federal agencies that have established or are actively managing existing MPAs in Puget Sound include the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic Atmospheric Administration (NOAA). The USFWS manages four protected areas in Puget Sound: the Dungeness, Protection Island, San Juan Islands, and Nisqually National Wildlife Refuges (NWRs). The Protection Island and San Juan Islands NWRs are off limit to public use and include marine buffer zones to 200 yards. The Dungeness and Nisqually NWRs protect intertidal area while providing for compatible wildlife-oriented recreational use. Through the National Estuarine Research Reserve (NERR) System, a federal/state partnership program, NOAA has designated and provides support for the Ecology-staffed Padilla Bay NERR. For several years, NOAA also studied (with Ecology) the feasibility of designating a National Marine Sanctuary in the Northwest Straits.

Washington's coastal Indian tribes play a unique and important role in the management and protection of marine resources throughout the state. Under treaty obligations dating back to the 1850s, western Washington tribes hold interests and rights to harvest fish and shellfish. Along with the state, the tribes have a vital interest in habitat for these species and cooperatively manage fishery resources. Where MPAs are concerned, the tribes are closely involved governmental bodies and play an integral role with regard to MPA planning, establishment and management.

The existing and potential role of local government in Puget Sound MPA establishment and management is significant and understudied. Twelve counties and numerous cities own and manage more than 150 public park areas (Scott et al. 1986) along the shores and tidelands of Puget Sound. Other areas under city or county management that may contain intertidal or subtidal components include recreation areas, public beaches, public access points, boat launches, landings, marinas, marine laboratories or educational institutions, and other shoreline open space.

The stewardship, conservation interests and actions of local governments have been vital to the establishment of several existing MPAs. MPAs established and managed primarily through the actions of local government include Edmonds Underwater Park, Titlow Beach Marine Preserve, Tongue Point Marine Life Sanctuary, and eight San Juan County Voluntary No-Take Bottomfish Recovery Areas. If this study were comprehensive at the local government level, additional MPAs would likely be identified. Additionally, the land use planning responsibilities of local governments in developing Shoreline Master Plans under the state's Shoreline Management Act, as well as similar responsibilities under the state's Growth Management Act, offer some potential for influencing MPA development.

Citizens, landowners, non-governmental organizations and other private sector groups play an important role in protecting and preserving marine areas and their values throughout Puget Sound. Acting independently, in groups or coalitions, or in partnership with various levels of government, private sector efforts can help secure, preserve, restore and manage protected areas in the marine environment. Because approximately 61% of the state's tidelands have been sold to private interests, a proprietary opportunity exists for the private sector to become directly involved in establishing and managing protected intertidal areas. Although not comprehensively investigated in this report, land trust organizations represent one type of private sector organization that is involved in the establishment and management of protected sites, including intertidal areas. In this study, the Nature Conservancy of Washington is recognized for establishing seven preserves in Puget Sound that include various extents of privately held or DNR-withdrawn intertidal area.

Summary Discussion and Analysis

This report provides some summary evaluation and comment on the overall institutional arrangements and the collection of MPAs in Puget Sound. Although much information is gathered on the specific roles of various institutions, and the details of MPA sites, the overall complexity, diversity and the chosen scope of this study limited the extent of analysis attempted.

The diverse set of protected intertidal and subtidal areas found in Puget Sound have developed incrementally and inconsistently into a patchwork of MPAs which vary considerably in designation, purpose, resource protection offered and level of management provided. Numerous organizations are involved in governing and managing resources and activities in marine areas, and the collective institutional arrangement to support MPA establishment and management in Puget Sound is fragmented and complex.

There has been no clear policy or coordinated program to guide the region's establishment and management of MPAs. The assortment of State Park areas, marine preserves, Natural Area Preserves, Natural Resources Conservation Areas, National Wildlife Refuges, Wildlife Areas and other MPA designations developed, collectively, without any particular systematic rationale or coordinated strategy for protecting marine areas. In the absence of such guiding policy, system-wide objectives for MPA development have never been clear, and designations have occurred without centralized guidance regarding the identification, design, financing, designation, management, monitoring and evaluation of MPAs.

Yet, a diverse set of marine area protection mechanisms do exist and can be used to create a wide variety of MPAs. MPAs are a tool available to all agencies and organizations.

This report also presents system-wide views and observations on a number of site characteristics for the collection of Puget Sound MPAs. Designation types are highly varied, with 14 different institutional designations represented. By category, Multiple Use MPAs dominate in number (65% of sites), while each of the four other categories (Research and Educational Marine Preserves, Recreational Marine Preserves, Marine Species Preserves, and Marine Habitat/Species Preserves) represent 16% or less of sites.

Geographic distribution of MPAs is varied, with roughly equal distribution between northern and southern Puget Sound. A high concentration of sites are located in the San Juan Archipelago, while there is a relative lack of sites along the Strait of Juan de Fuca. MPAs that are part of terrestrial protected areas dominate in number (82% of total), while subtidal sites are minimal (18%). The size of Puget Sound MPAs vary dramatically. Subtidal sites with legal closures on harvest are small (10 to 200 acres) relative to large intertidal protected areas (from 2000 to 13,000 acres).

Only 18% of MPAs identified in this study provide fished species with protection from harvest. The vast majority of MPAs (82%) do not restrict fishing activities. The harvest or collection of unclassified species is legally prohibited at 62 MPAs (60% of sites), with State Parks representing 97% of that total. As of 1997, there is only one no-take MPA in Puget Sound, the Edmonds Underwater Park.

Most of Puget Sound's MPAs have evolved from the distinct and separate approaches of regulatory mechanisms (based in specific laws, such as prohibitions on harvest) or proprietary mechanisms (based on property ownership or lease). In recent years, some MPAs have been planned and established through an integration of the two approaches (e.g., Titlow Beach Marine Preserve).

The nature and extent of on-site management activity occurring at MPAs in Puget Sound is highly varied, ranging from set-aside areas with minimal supervision and management, to research reserves featuring continuous on-site management activity. Over 75 percent of the MPAs identified in this study are managed without the guidance of a completed site-specific management plan. For most of these sites, site management is guided by

centralized planning or direction contained within geographically broader plans. However, approximately nine MPAs appear to have no management plan at all, specific or general.

Year-round on-site management presence or routine visitation can be found at approximately 71 sites. Remaining sites are visited by management staff on an infrequent basis, such as seasonally, a few times per year, or as periodically required. For those subtidal MPAs with harvest prohibitions in place, very few have developed site-specific enforcement programs, and enforcement is often characterized as light.

MPA Inventory: Suggested Additional Research and Work

Building on the data presented, it is recommended that steps be taken to move this preliminary assessment toward a more complete MPA inventory for Puget Sound. This should involve the collection of more information on sites and programs mentioned in this report, the identification of additional existing MPAs, and the upkeep of MPA information as new sites are designated and existing sites or programs change.

It is recommended that steps be taken to develop and maintain a geographic information system (GIS) and database for MPAs. Among many benefits, GIS development can help resolve some of the data gaps encountered in this study, such as unmapped site boundaries and unmeasured MPA sizes.

Continuing research should be undertaken to identify additional MPA sites and designation mechanisms. Because this preliminary assessment has placed primary emphasis on state and federal MPAs and programs, there are a number of local government, private sector and other programs and protected sites that have not been fully investigated. In particular, MPA designation mechanisms warranting further study include the following:

- Parks or other protected areas established by local government (counties or cities).
- Additional fishery management areas (including closed areas that are not fully understood — see Appendix B, Potential/Possible MPAs).
- Tribal-established MPAs or similar protected areas on intertidal tribal lands.
- Land trusts, conservation easements and other privately-owned protected tidelands.
- Additional government agency intertidal land holdings. Those intertidal lands held or managed by government agencies that exist without particular protected area designation titles, but which may to some extent function like MPAs. This could include restricted military shorelines.
- Marine laboratories or other research stations established by private or local government entities.
- Mitigation sites.
- The role of local land use management, comprehensive planning, and zoning as contributing to MPAs.

Complimentary to the suggestion that a GIS be developed, it is recommended that additional site information be gathered for existing MPAs. At many MPAs, marine area boundaries are unclear, and often very little is known about site-specific marine resource features and values. Site elements most commonly unavailable or unclear include the following:

- Clear identification and description of marine boundaries (intertidal and subtidal).
- Size/acreage breakdown for intertidal and subtidal components.
- Information on marine resources (natural and/or cultural) and resource values specific to the site.

Consideration might also be given to expanding MPA identification and profiling efforts state-wide, and integrating results with British Columbia. Ultimately, if a coordinated system or network of MPAs is to be developed throughout Puget Sound and the Georgia Basin, all programs, potential partners and protected sites should be identified and represented within a comprehensive, updated MPA database. Ideally, it is recommended that

development of a distributed, possibly on-line, system for gathering, maintaining and sharing new and updated basic information on protected areas be investigated. Taking the necessary steps to maintain and build on this study's data will prevent or reduce the future possibility of a large scale effort to reassess the basic status of MPAs in Puget Sound.

Application of this Information

While the compilation of information gathered in this report does not simplify the complexity of the existing system, it can help eliminate some confusion about Puget Sound MPAs. It is hoped that this information can help interested individuals to better understand the system as it currently exists.

As efforts advance toward the design of a system or network of MPAs, the information collected in this study can serve as a preliminary baseline measure of the extent of marine area currently protected. As much focus is given to the establishment of new sites, this report can also help draw attention to existing protected areas in Puget Sound. To this end, opportunities may be explored to improve, enhance, build upon and learn from the existing MPAs profiled in this report. Similarly, consideration might be given to the broad diversity of available designation mechanisms and protection options discussed in this report. This may help increase dialog between groups, and bring to light potential cooperative and partnership opportunities within and between agencies and organizations.

This centralized source of information can serve as a base upon which more studies could be developed. In addition to research and work directed at expansion and improvement of an MPA inventory for the region (as previously suggested), this information base might invite additional studies on such topics as MPA effectiveness or funding sources and needs.

Overall, it is hoped that this compilation of information on Puget Sound MPAs can provide a foundation upon which to build a more rational, effective, coordinated and manageable system of MPAs in Puget Sound.